

REMARKS

Claims 1-21, 25-32 and 36-45 were rejected in the outstanding Office Action under 35 U.S.C. §103(a) as unpatentable over U. S. Patent No. 5,651,936 (Reed) in view of Cerestar Technical Information for Maltidex M 16311 (Cerestar). This rejection is respectfully traversed. Claim 1 requires making a chewing gum composition comprising the steps of:

- a) making a syrup by evaporating water from a mixture comprising:
 - i) an aqueous sorbitol solution containing at least 50% sorbitol;
 - ii) a plasticizing agent selected from the group consisting of glycerin, propylene glycol and mixtures thereof; and
 - iii) a hydrogenated starch hydrolyzate syrup,
 - iv) wherein the final evaporated syrup composition comprises less than 10% moisture, about 5% to about 20% plasticizing agent, at least 50% sorbitol, about 3% to about 25% maltitol, and at least 1.5% hydrogenated oligosaccharides having a DP of 3 or greater; and
- b) mixing the syrup with gum base and additional chewing gum ingredients to produce the chewing gum composition.

The Office Action takes the position that Reed teaches each of the above features except that it does not explicitly disclose a hydrogenated starch hydrolyzate in syrup form and having at least 1.5% hydrogenated oligosaccharides having a DP of 3 or greater in the final evaporated syrup. The Office Action then suggests that it would have been obvious to use the Cerestar Maltidex M 16311 in Reed, and doing so would result in a method with all the features of claim 1. There is a major flaw with this position. While it is true that Reed discloses making a chewing gum composition from an evaporated syrup, the syrup in Reed is described as being made from an aqueous sorbitol solution, a plasticizing agent and an anticrystallization agent selected from alditols other than sorbitol and having a degree of polymerization (DP) of 1 or 2. (The Office Action obscures this difference by stating that Reed discloses using "iii) a

hydrogenated starch hydrolyzate (see maltitol, C5/L8-12)." Column 5, line 9 of Reed states that one of the anticrystallization agents that can be used is maltitol. There is no statement in lines 8-12 that a hydrogenated starch hydrolysate can be used, or that hydrogenated starch hydrolyzate is the same thing as maltitol.

The flaw underlying the rejection comes from equating the suggestion in Reed of using maltitol as the anticrystallization agent with the idea that Maltidex M 16311 constitutes maltitol and could be used as the anticrystallization agent of Reed. In fact, Reed teaches away from making the very substitution suggested as being obvious in the Office Action. First, it is noted that Reed specifically states that the anticrystallization agent needs to have a DP of 1 or 2. While the maltitol in Maltidex M 16311 meets this requirement, Maltidex M 16311 contains significant amounts of hydrogenated oligosaccharides having a DP over 2. The Office Action recognizes that Maltidex M 16311 contains about 22% hydrogenated oligosaccharides having a DP of 3 or greater. Column 5 of Reed, line 3-5 states, "The alditol should have a degree of polymerization (DP) of 1 or 2, because alditols with a DP of 3 or greater cause an increased viscosity in the syrup as it is evaporated." Thus it would not have been obvious from Reed to use a material that has 22% alditols with a DP of 3 or greater and 76% maltitol as a substitute for the plain maltitol (or combined maltitol and mannitol) of Reed.

Cerestar notes that Maltidex M 16311 can be used as an "anti-crystallising agent" in liquid dosage formulations, and in medicated chewing gum. This would not, however, make it obvious to use Maltidex M 16311 as the anticrystallization agent of Reed, where Reed specifically teaches against using alditols with a DP of 3 or greater.

In addition to the fact that it would not have been obvious to use Maltidex M 16311 as the anticrystallization agent of Reed, the present invention involves unexpected results. Paragraph 0009 of the specification discusses the present invention in the context of the Reed disclosure: "U.S. Patent 5,651,936 [Reed] discloses a unique syrup composition containing aqueous sorbitol, a plasticizer agent, and an anticrystallizing agent. This composition was designed to use aqueous sorbitol as a less expensive form of sorbitol.... While this syrup was successfully used in chewing gum compositions used to make stick forms of chewing gum products, its use

in other forms, particularly coated pellet gum, at a level great enough to be economically advantageous, was not satisfactory. Of course, other chewing gum formulations without the syrup can be made and used to form pellets for coated chewing gum products. However, it would be advantageous if a syrup made with the low cost form of sorbitol could be developed that could be used in pellet gum compositions. More importantly, it would be highly advantageous if a single syrup could be made that used inexpensive aqueous sorbitol and that could be used both in stick gum as well as other forms of chewing gum, so that only one sugarless syrup would be needed to make all types of products. It would especially be beneficial if the syrup could be used at levels such that the cost benefit of the low cost of the syrup made its use worthwhile from a practical standpoint." Paragraph 0011 of the specification then states: "The preferred embodiment of the present invention provides a sugarless syrup that surprisingly can be used in both stick and pellet chewing gum compositions, providing lower cost and improved chewing gum compositions. The preferred syrup can be used at levels which are high enough that the cost savings justify its use." Paragraph 0038 further states, "The new sugarless syrup surprisingly can be used in stick, tab, chunk or pellet chewing gum products, especially pellets that are to be coated. It is a great advantage to chewing gum manufacturers to use the same ingredients in all of their chewing gum compositions, which are then used to make stick products, tab products, pellets for coating, or gum balls." Pages 23-26, and specifically Tables I -IV, give examples of gum made with the present invention compared to gum made with a syrup that meets the disclosure of Reed, and compares the products. As noted above, unexpectedly the syrup of the present invention was able to be used to make both stick and pellet gum, and could be used at high levels in coated pellet gum.

Because the prior art would not be combined as suggested in the outstanding Office Action due to a teaching away of the suggested combination in the prior art, and because the invention produces unexpected results, claim 1 is patentable over Reed and Cerestar.

Claims 8, 11, 14, 25, 36 and 42 are other independent claims that were all rejected on a similar basis as the rejection of claim 1. In each case it was the position in the Office Action that it would have been obvious to substitute the Maltidex M 16311 for

the anticrystallization agent having a DP of 1 or 2 of Reed. As noted above, this goes against the teaching of Reed. Also, the invention involves unexpected results. Thus claims 8, 11, 14, 25, 36 and 42 are not obvious over Reed and Cerestar. Further, claims 2-7, 9-10, 12-13, 15-21, 26-32, 37-41 and 43-45, dependent on claims 1, 8, 11, 14, 25, 36 and 42, are patentable for at least the same reasons.

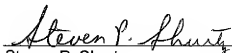
Claims 22-24 and 33-35 were rejected in the outstanding Office Action under 35 U.S.C. §103(a) as unpatentable over Reed in view of Cerestar and in view of U.S. Patent No. 4,105,801 (Dogliotti). This rejection is also respectfully traversed. This rejection is based on the same flawed basis as the rejection of claim 1, that it would have been obvious to substitute Maltidex M 16311 for the anticrystallization agent having a DP of 1 or 2 in Reed. While Dogliotti discloses coated dragees, and mentions that chewing gum is also often coated with a sugar shell, there is no suggestion in Dogliotti about how to formulate a chewing gum center to use a syrup made by evaporating a mixture comprising sorbitol solution, glycerin and hydrogenated starch hydrolyzate syrup to form an evaporated sugarless syrup, as called for by claim 22; or coevaporating a solution that comprises, prior to coevaporation, approximately 52% to about 87% by weight aqueous sorbitol, approximately 5% to about 30% by weight of hydrogenated starch hydrolyzate syrup, and approximately 8% to about 20% by weight of a plasticizing agent selected from the group consisting of glycerin, propylene glycol and mixtures thereof, as called for by claim 33. Since Dogliotti does not counter the teaching away of Reed, the addition of Dogliotti to the basis for the rejection does not overcome the deficiency of the basic rejection noted above.

Further, claims 22 and 33 both require a method where the same syrup is used to make two different chewing gum compositions, at least one of the compositions being used to make stick chewing gum products and at least one of the compositions being used to make coated chewing gum products. While Reed states that the chewing gum products can be formed into a variety of shapes, there is no suggestion in Reed of making the composition into coated chewing gum products. Of course Cerestar is silent on this point. While Dogliotti teaches that chewing gum can be coated, there is no suggestion in Reed, Cerestar or Dogliotti that the same syrup can be used to make a gum composition that is formed into sticks, and then used to make a second gum

formulation that is made into coated chewing gum products. Claims 22 and 33, and claims 23-24 and 34-35 dependent thereon are thus patentable over Reed, Cerestar and Dogliotti.

Since each of the reasons for the rejections have been overcome, it is believed that the case is in condition for allowance.

Respectfully submitted,



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